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Impact of Patient Counselling on Health Releated Quality of Life in Diabetic and Hypertensive Patients

P.Maheshwari*

Department of Pharmacy practice, School of Pharmaceutical Sciences,Vels University, Chennai-600117, Tamil Nadu, India

Abstract: Aim and Objectives: The aim of the study to counsel the patients about the disease and medical related outcomes empower the patients to adopt positive life style to improve the health outcomes and quality of life. The objectives of this study are to improve the quality of life in hypertensive and diabetic patients and to improve better medication adherence.
Methods: A Prospective study has been carried out for a period of 6 months (December 2014 to May 2015) at the ESI hospital, Ayanavaram, Chennai. 100 patients who are diagnosed with diabetes and hypertension are selected (N=100), based on the inclusion and exclusion criteria. Their case sheets are thoroughly studied. Health related quality of life of patients was assessed by using SF-12 quaternary.
Results: It can be seen that Metformin is being given to 71% patient while there are about 67% patients received insulin. Among the antihypertensives perindopril is given for most patients. The fasting blood sugar was reduced about 8mg/dl($p<0.0001$) while the Post prandial blood sugar was reduced about 19mg/dl($p<0.0001$). The systolic blood pressure level was reduced about 3.5mmHg ($p<0.005$).The diastolic blood pressure level was reduced about 5mmHg ($p<0.0001$).
Conclusion: Study concluded that the pharmacist play an important role by providing the counseling which has shown a positive impact on health care.This study justifies the influence of pharmacist provided patient counseling on therapeutic outcomes and overall quality of life.
Keywords: Quality of Life, Diabetes Mellitus, Hypertension.

Introduction

Hypertension also known as high blood pressure or arterial hypertension, is a chronic medical condition in which the blood pressure in the arteries is elevated. Blood pressure is expressed by two measurements, the systolic and diastolic pressures, which are the maximum and minimum pressures, respectively, in the arterial system.[1]

Normal blood pressure at rest is within the range of 100–140 mmHg systolic and 60–90 mmHg diastolic. Hypertension is present if the blood pressure is persistently at or above 140/90 millimeters mercury (mmHg) for most adults; different criteria apply to children.

There are several methods for health status and disease management evaluation. The assessment of patient reported outcomes is a valuable method for this purpose and the quality of life (QOL) instruments have been developed to measure patients' outcome in clinical research and practice. The QOL is defined as individuals' perception of their physical and mental health in their daily lives which cover physical,

psychological, economic, spiritual, and social functioning. It can reflect the impact of diseases and related morbidities on daily activities and functioning.[2]

Activities of daily living - breathing comfortably, quality of sleep, eliminating wastes, feeding oneself, dressing, and others), the health care professions have codified the concepts of activities of daily living (ADLs) and instrumental activities of daily living(IADLs).[3]

Young Ran Chin at al[2014] study explored health-related quality of life (QoL) in Korean elderly individuals with hypertension, diabetes, and/or cardiovascular disease (CVD), population-based cross-sectional design. Data were obtained from the Fourth Korean National Health and Nutrition Examination Survey 2008, which involved a nationally representative sample. [4]

Abdoli A at al,[2015] evaluation of health-related quality of life (HRQoL) among people with diabetes has been growing in Iran over the last decade. The main aim of the current study was to systematically review the characteristics of these studies and examine quality of their findings. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed. [5]

The aim of the study to counsel the patients about the disease and medical related outcomes empower the patients to adopt positive life style to improve the health outcomes and quality of life. The objectives of this study are to improve the quality of life in hypertensive and diabetic patients, to improve better medication adherence, creating awareness about antihypertensive drugs and diabetic drugs and to show a positive impact on health care.

Materials and Methods:

A Prospective study has been carried out for a period of 6 months (December 2014 to May 2015) at the ESI hospital, Ayanavaram, Chennai. 100 patients who are diagnosed with diabetes and hypertension are selected (N=100), based on the inclusion and exclusion criteria. Their case sheets are thoroughly studied. The following parameters are noted such as lab investigations (BP, PPBS, FBS). Health related quality of life of patients was assessed by using SF-12 quaternary.

Inclusion Criteria:

- Patients above and equal to 18 years of age.
- Patients with either gender.
- Patients giving consent form.
- Patients diagnosed with both hypertension and diabetes.
- Demographic details of the patients , social habits, educational details and employment detail of the patients were collected in suitable design form.

Exclusion Criteria:

- Missing data.
- Pregnancy and lactating woman.
- Patients with co-morbid conditions

Results

The following results were obtained from this study.

Table 1 shows the age distribution of the participants who took part in this study. It can be seen that most of the patients belonged to age group 40-70 years.

Table 1: The Age Distribution

Age	No.of.Patients	% of Patients
30-40	4	4
40-50	26	26
50-60	47	47
60-70	16	16
70-80	7	7

Table 2 shows the gender wise distribution of participants who took part in this study. About 60% of the participants were male.

Table 2: Gender Distribution of Diseases

Gender	No.of.Patients	% Patients
MALE	60	60
FEMALE	40	40

Table 3 shows the diagnosis pattern of the patient. About half of the patient had a comorbid state of both diabetes and hypertension.

Table 3: Diagnosis

Diagnosis	No.of.Patients	Percentage
DM	24	24
HTN	26	26
DM/HTN	50	50

Table 4 shows the drugs being prescribed to the patients. It can be seen that Metformin is being given to 71% patient while there are about 67% patients received insulin. Among the antihypertensives perindopril is given for most patients.

Table 4: Drug Wise Distribution

Name of Drug	% of Patients
Peridopril	55
Nifidipine	22
Enlapril	8
Telmisatren	12
Amilodipine	32
Atenolol	49
Glibenclemide	24
Insulin	67
Metformin	71
Sitagliptin	69

Table 5 shows the mean blood pressure levels during pre-counselling and post counselling phases. It can be seen that about 3.5mmHg has been reduced as a result of counselling.

Table 5:Blood Pressure levels in Pre-counselling and Review

Precounselling	Mean	SD
Systolic	138.8	16.99278
Diastolic	91.6	10.46802
Review	**Mean**	**SD**
Systolic	135.2	12.14114
Diastolic	86	6.329821

Table 6 shows the mean blood sugar levels during pre-counselling and post counselling phases.

Table 6: Blood sugar levels in Pre-counseling and Review

Precounselling		Mean	SD
FBS	139.16	102.98	44.74342
PPBS	207	206.702	67.836
Review		**Mean**	**SD**
FBS	131.43	131.4324	40.99871
PPBS	187.46	187.4865	56.7601

Table 7 shows the PCS and MCS scores during the pre-counselling phases.

Table 7: PCS and MCS in Pre-counseling

Precounselling		Mean	SD
PCS	53%	39.11	5.285172
MCS	47%	44.132	4.833356

Table 8shows the PCS and MCS scores during the post-counselling phases.

Table 8: PCS and MCS in Review

Review		Mean	SD
PCS	56%	41.386	5.3019
MCS	50%	46.349	5.14624

Table 9: Statistical Analysis

Parameter	Mean±SD		P Value
	Pre-counseling	Post-Counseling	
FBS	139.6±44.7	131.43±40.99	<0.0001
PPBS	206.70±67.83	187.48±56.76	< 0.0001
Systolic BP	138.8±16.92	135.2±12.03	0.0035
Diastolic BP	91.6±10.46	86±6.32	< 0.0001
Physical Component Score	39.11±5.24	41.38±5.27	< 0.0001
Mental Component Score	44.13±4.78	46.34±5.09	< 0.0001

The statistical analysis was done using graph padprism software-6. All values were significant with $p<0.05$

Discussion

This study dealt with the health related quality of life of patients with diabetes mellitus and hypertension and its comorbid conditions. Table 1 shows the age distribution of the participants who took part in this study. It can be seen that most of the patients belonged to age group 40-70 years which is similar to Redekop WK et al.[6]

Gender differences can be seen through table 2.Table 2 shows the gender wise distribution of participants who took part in this study. About 60% of the participants were male. Table 3 shows the diagnosis pattern of the patient. About half of the patient had a comorbid state of both diabetes and hypertension which relates to Hermann BP et al[7] and Wilson IB et al.[8]

It can be seen that Metformin is being given to 71% patient while there are about 67% patients received insulin. Among the antihypertensives perindopril is given for most patients. Table 5 shows the mean blood

pressure levels during pre-counselling and post counselling phases. It can be seen that about 3.5mmHg has been reduced as a result of counselling similar to Soni RK et al.[9]

The fasting blood sugar was reduced about 8mg/dl($p<0.0001$) while the Post prandial blood sugar was reduced about 19mg/dl($p<0.0001$). The systolic blood pressure level was reduced about 3mmHg ($p<0.005$).The diastolic blood pressure level was reduced about 5mmHg ($p<0.0001$).

Conclusion

Study concluded that the pharmacist play an important role by providing the counseling which has shown a positive impact on health care. There was a significant difference found on health outcomes of diabetic and hypertensive patients such as glycemic control (FBS and PPBS) and in blood pressure control (systolic and diastolic) between the review-1 and review-2. This study justify the influence of pharmacist provided patient counseling on therapeutic outcomes and overall quality of life.

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